

AUG 15 2006

Patent
Attorney Docket No.: 50-0061

IN THE DRAWINGS

Fig. 2 has been amended to show the elastomeric shear layer 120 with cross hatching and to show the spoke 150 as a solid extending both radially inward and transversely across from the shear layer.

Fig. 15 has been added as a new drawing to provide a perspective view of an exemplary embodiment of the present invention.

Fig. 16 has been added as a new drawing to illustrate an embodiment of the invention having the enlarged end portions on a spoke adapted to fit in an engaging slot in the wheel.

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REMARKS**Objections to the Drawings**

The drawings stand objected to under 37 CFR 1.83(a) for not adequately showing the shear layer and spokes of claim 1 and the enlarged end portion and the slot of claim 4. Applicant has amended Fig. 2 and added Figs. 15 and 16 to adequately show these features of the invention. Reconsideration and withdrawal of the objection is respectfully requested.

In the Final Office Action, the Examiner did not enter the amendments made to the drawings, stating that "the shear layer shown as a solid structure in replacement figure 1 was not shown as such in the original figure 1." Applicant notes that the amendment was made to figure 2, not to figure 1, although Applicant further notes that the drawing amendment as originally filed was mislabeled by Applicant as figure 1.

The original FIG. 2 did not show crosshatching on the shear layer as noted by the Examiner. However, Applicant did show crosshatching on the spoke 150, although the crosshatching was widely spaced. Applicant has amended FIG. 2 to show the crosshatching on the spoke 150 to be spaced more closely together.

Regarding the shear layer, there is sufficient support in the specification and drawings to correct the error of not crosshatching the shear layer in FIG. 2 to show that the shear layer is a solid. First, FIG. 4 shows the shear layer 120 as a solid because the shear layer is crosshatched. Secondly, the specification describes the shear layer as comprising an elastomeric material. (Specification, ¶ 45). Since elastomeric materials are solid, and not void, the shear layer 120 is disclosed as being solid. Therefore, because both the specification and other drawings disclose that the shear layer 120 is a solid, entry of the amended FIG. 2 is respectfully requested as the drawing does not include new matter.

Regarding FIG. 16, attached is the Declaration of David Cowart, who is a wheel designer and one having ordinary skill in the art. As the MPEP directs:

Where subject matter not shown in the drawings or described in the description is claimed in the application as filed, and such original claim itself constitutes a clear disclosure of the subject matter, then the claim should be treated on its merits, and

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requirement made to amend the drawings and description to show
this subject matter.
MPEP at 608.01(1)

Applicant has provided evidence in the Declaration of David Cowart that the disclosure of claim 4 and ¶ 71 is sufficiently specific and detailed to support the necessary amendment to the drawings and description. Therefore, reconsideration and withdrawal of the objection to FIG. 16 is respectfully requested.

Regarding FIG. 15, Applicant has amended the drawing to remove the reference to paired spokes having arcuate cutouts, neither of which is specifically disclosed in the written description.

For the reasons given above, Applicant respectfully requests reconsideration and withdrawal of the objections to the drawings and requests that the amendments to the drawings be entered.

Objections to the Specification

The amendments to the specification stand objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure regarding the new figures 15 and 16.

For the reasons given above regarding the objections to the figures, Applicant respectfully requests reconsideration and withdrawal of the objections to the specification.

Rejections under 35 U.S.C § 102(b)

Independent claims 1, 23 and 27 as well as other claims depending therefrom, stand rejected under 102(b) as being anticipated by each of the following cited prior art references: U.S. Patent No. 811,232 of Lang, U.S. Patent No. 1,147,600 of Borland, U.S. Patent No. 1,557,437 of Dodge, U.S. Patent No. 1,414,544 of Bessler and U.S. Patent No. 1,268,078 of Lambert.

Applicant has amended independent claims 1, 23 and 27 to include the limitation of claim 14, which does not stand rejected under 102(b) as being anticipated by any of the prior art references listed above. Specifically, Applicant has amended claims 1, 23 and 27 to claim a
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structurally supported tire and wheel-tire comprising, *inter alia*, a reinforced annular band, a plurality of web spokes and means for interconnecting the spokes with a wheel, wherein a ratio of the longitudinal tensile modulus of one or more of the membranes to the shear modulus of the shear layer is at least about 100:1. (claims 1, 23 and 27).

MPEP § 2131 provides:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990).

Since none of the cited prior art references sets forth either expressly or inherently each and every limitation claimed by Applicant in its independent claims, Applicant respectfully requests reconsideration and withdrawal of the rejection of independent claims 1, 23 and 27 as well as of the dependent claims depending therefrom that stand rejected under 35 U.S.C. 102(b).

Rejections under 103(a)

Claims 14, 15, 17 and 31-33 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 811,232 of Lang. As Applicant discussed above, Applicant has amended independent claims 1, 23 and 27 to include the limitations of claim 14, namely that a ratio of the longitudinal tensile modulus of one or more of the membranes to the shear modulus of the shear layer is at least about 100:1.

To establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

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An additional requirement for providing a *prima facie* case of obviousness is that the Examiner must provide a basis for combining or modifying the cited references. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990).

In the case *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002), the Federal Circuit held:

When patentability turns on the question of obviousness, the search for and analysis of the prior art includes *evidence* relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as *evidence* of obviousness.

Id. at 1343, emphasis added.

Applicant respectfully asserts that a *prima facie* case of obviousness has not been presented because the cited prior art fails (1) to teach or suggest each and every limitation claimed by Applicant and (2) there has been no evidence presented by the Examiner that is relevant to the finding of whether there is a teaching, motivation or suggestion to modify the cited prior art as evidence of obviousness.

Regarding the requirement that the cited prior art fails to teach or suggest each and every limitation of the cited prior art, the Examiner admits to as much in the Final Office Action. (*See*, FOA, p. 6, ¶ 6). The Examiner states therein that “The shear modulus, the tensile modulus of the shear layer and the thickness is not defined in Lang, *et al.*” *Id.*

However, not only does Lang fail to teach or suggest the shear modulus or tensile modulus or the relationship therebetween as claimed by Applicant, but Lang also fails to teach or suggest a plurality of web spokes extending transversely across and radially inward from the reinforced annular band and means for interconnecting the web spokes with the wheel. (Claims 1, 23, and 27).

Specifically, Lang discloses a radial web structure 13 that are not spokes but rather are “intended more to form subdivisions of the air spaces than to support the tread of the tire.” (Lang, p. 1, lines 60-69). Lang further discloses that the radial webs 13 lie between either the

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partition and the tread of the wall or between the partition and the rim-surface of the tire. (Lang, p. 1, lines 56-60).

The Examiner has cited these radial webs that are disclosed by Lang as being subdivisions of the air spaces and not supports for the tire to teach or suggest the spokes claimed by Applicant. However, there is no teaching or suggestion by Lang that these radial webs are interconnected with the wheel. Indeed, Lang discloses that the radial webs run between the partition and the rim-surface or between the partition and the tread but there is no teaching or suggestion that the radial webs extend from the annular band and are interconnected with the wheel.

Regarding the requirement that there must be evidence presented by the Examiner that is relevant to the finding of whether there is a teaching, motivation or suggestion to modify the cited prior art, the Examiner merely states that the choice of the ratio is an obvious mechanical expedient. However, the Examiner has provided no *evidence* to support this statement and evidence is required for a *prima facie* case of obviousness.

Therefore, because the cited prior art fails to teach or suggest each of the claimed limitations and because there has been no evidence provided to support modification of the cited prior art, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 14, 15, 17 and 31-33 as incorporated into the independent claims 1, 23 and 27.

Claims 9 and 10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 811,232 of Lang in view of Japanese patent 1-311902. Claim 12 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,147,600 of Borland in view of U.S. Patent No. 1,101,702 of Lakoff. Claim 19 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,811,232 of Lang in view of U.S. Patent No. 4,262,726 of Welter. Claim 26 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,557,437 of Dodge in view of Pratt.

Each of these rejected claims is a dependent claim depending from independent claims 1, 23 or 27. For the reasons provided above regarding independent claims 1, 23 and 27 as amended

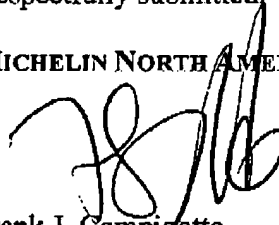
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to include the limitations of claim 14 discussed above, Applicant requests reconsideration and withdrawal of the rejection of these dependent claims that depend therefrom.

Applicant respectfully asserts that all claims are now in condition for allowance and requests the timely issuance of the Notice of Allowance. If the Examiner believes that a telephone interview would expedite the examination of this pending patent application, the Examiner is invited to telephone the below signed attorney at the convenience of the Examiner. In the event there are any fees or charges associated with the filing of these documents, including late filing fees, the Commissioner is authorized to charge Deposit Account No. 13-3085 for any necessary amount.

Respectfully submitted,

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